



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/765,256

01/26/2004

Srikanth Varanasi

1-15610

9581

1678 7590 04/08/2008
MARSHALL & MELHORN, LLC
FOUR SEAGATE - EIGHTH FLOOR
TOLEDO, OH 43604

EXAMINER

CHEN, BRET P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

04/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/765,256	Applicant(s) VARANASI ET AL.	
	Examiner BRET CHEN	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-20 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-20, 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-14, 16-20, 27-29 are pending in this application. Amended claims 6 and 16 are noted.

The amendment dated 12/20/07 has been entered and carefully considered. The examiner appreciates the amendments to the claims. In view of said amendment, the 112 rejection has been withdrawn. In addition, in view of the applicant's arguments on p.7, the previous art rejection has been withdrawn.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14, 16-20, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halaby et al. (3,892,888) in view of Robinson et al. (2002/0135099) or vice versa.

Halaby discloses a method of making a magnetite film or gamma ferric oxide film magnetic recording and storage device comprising the step of depositing a film of elemental iron, alpha ferric oxide, or magnetite on an inorganic and non-magnetic substrate by chemical vapor deposition (col.1 lines 36-49). The substrate can be in the form of a disk, tape, rod, drum or wire and can be aluminum, glass, glass-ceramic or ceramic that can withstand without damage the high temperatures encountered in the method of this invention (col.2 lines 15-23) and can be heated to 300°C (col.2 lines 52-54). The precursor can be ferrocene and can be transported by the use of an inert or reducing carrier gas (col.2 lines 54-69) and the carrier gas can be oxygen (col.6 lines 1-18). It should be noted that the final film can be alpha ferric oxide (col.5 lines 63-

Art Unit: 1792

65). Nitrogen can be used as an inert gas (col.4 lines 1-25). However, the reference fails to teach a float glass process.

Robinson discloses a method of using float glass having a SnO_2 enriched surface, wherein the method includes the steps of providing an ionic release agent externally to the tin oxide surface (par 9). Specifically, the reference teaches the conventionality of making a float glass wherein the molten glass is allowed to float on a liquid pool of tin which results in one side of the glass having a tin enriched surface as opposed to the air-side of that same piece of glass (par 54). A metal oxide coating such as Fe_2O_3 can be formed (par 55). In one embodiment, two or more layers are contemplated (par 55). It would have been obvious to incorporate the float glass substrate of Robinson in Halaby's process with the expectation of obtaining similar results.

In addition, Robinson's process is silent on specific precursors for forming Fe_2O_3 layers. Halaby discloses the conventionality of using ferrocene and an oxidant. It would have been obvious to incorporate Halaby's precursors in Robinson's process with the expectation of success.

With respect to the gas precursor mixture, it is noted that the claim specifically recites "directing ferrocene and an oxidant toward and along the surface to be coated to form a gaseous precursor mixture". Since Halaby specifically teaches of forming a ferric oxide film by reacting ferrocene and oxygen as noted above, one skilled in the art would realize that the gases mixed in some sort of fashion.

The limitations of claims 2-3, 13 have been addressed above.

In claim 4, the applicant requires a cooling step. Eventually the final product will be cooled to room temperature thus meeting the limitation.

In claim 5, the applicant requires a specific inert carrier gas such as nitrogen. This limitation is met in col.4 lines 8-9.

In claim 6, the applicant requires a specific deposition rate. Halaby teaches a similar deposition rate in col.3 lines 1-36. Regardless, it would have been obvious to have a fast deposition rate with the expectation of improving deposition efficiency.

In claims 7-12, the applicant requires a specific concentration. Halaby teaches a similar concentration in col.4 line 1 – col.5 line 7. Regardless, it is well known to vary composition to optimize the characteristics of the final product and hence, would have been obvious to vary the composition do with the expectation of obtaining the desired final properties.

In claim 14, the applicant requires dissolving ferrocene in a solvent. Halaby teaches of dissolving ferrocene in benzene (col.2 lines 66-67) and thus meets the limitation of the claim.

In claim 16, the applicant requires an additional coating. This is met in col.7 lines 1-52. The limitations of claims 17-20 and 29 have been addressed above.

Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halaby et al. (3,892,888) in view of Robinson et al. (2002/0135099) or vice versa and further in view of Higby (5,780,372). The combination of Halaby and Robinson disclose a method of forming a ferric oxide film on a glass substrate using ferrocene as note above. However, the references fail to teach the use of iron oxide coatings in architectural glazings.

Higby teaches the conventionality of using iron oxide in architectural glazings. It would have been obvious to utilize the coating produced by the combination of Halaby and Robinson for architectural glazings because Higby teaches the conventionality of doing same.

Art Unit: 1792

Response to Arguments

Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. A new ground(s) of rejection is offered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRET CHEN whose telephone number is (571)272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. Chen/

Primary Examiner, Art Unit 1792

3/30/08